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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration.**

**14 CFR Part 25**

[Docket No. FAA-2000-8511; Amendment No. 25-105] 9P 6/19/01

**RIN 2120-AH32**

nm 6-21-01

**Revisions to Requirements Concerning Airplane Operating Limitations and the Content of Airplane Flight Manuals for Transport Category Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The Federal Aviation Administration amends the airworthiness standards for transport category airplanes concerning airplane operating limitations and the content of airplane flight manuals. Issuing this amendment eliminates regulatory differences between the airworthiness standards of the U.S. and the Joint Aviation Requirements of Europe, without affecting current industry design practices.

**EFFECTIVE DATE:** [Insert date 30 days after date of publication in the Federal Register.]

**ADDRESSES:** You may review the public docket concerning this amendment at the Department of Transportation (DOT) Dockets Office, located on the plaza level of the Nassif Building at the above address. You may review the public docket in person at this address between 9:00 a.m. and 5:00 p.m., Monday through Friday, except Federal holidays. Also, you may review the public dockets on the Internet at http://dms.dot.gov.

**FOR FURTHER INFORMATION CONTACT:** Don Stimson, FAA, Airplane and Flight Crew Interface Branch, ANM-111, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, WA 98055-4056; telephone: 425-227-1129; fax: 425-227-1320, e-mail: don.stimson@faa.gov.

Part - 6/26/01 III
Part - Eff Date - 7/26/01

**SUPPLEMENTARY INFORMATION:**

**How Can I Get a Copy of Rulemaking Documents?**

You can get an electronic copy using the Internet by taking the following steps:

(1) Go to the search function of the Department of Transportation's electronic Docket Management System (DMS) web page (http://dms.dot.gov/search).

(2) On the search page type in the last four digits of the Docket number shown at the beginning of this notice. Click on "search."

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You can also get an electronic copy using the Internet through FAA's web page at http://www.faa.gov/avr/arm/nprm/nprm.htm or the Federal Register's web page at http://www.access.gpo.gov/su_docs/aces/aces140.html.

You can also get a copy by sending a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue SW., Washington, DC 20591, or by calling (202) 267-9680. Make sure to identify the amendment number or docket number of this rulemaking.

**How Does this Amendment Affect the Small Business Regulatory Enforcement Fairness Act?**

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1995 requires FAA to comply with small entity requests for information or advice about compliance with statutes and regulations within its jurisdiction. Therefore, any small entity that has a question regarding this document may contact their local FAA official, or the person listed under FOR FURTHER INFORMATION CONTACT. You can find out more about SBREFA on the Internet at our site, http://www.gov/avr/arm/sbrefa.htm, or e-mail us at 9-AWA-SBREFA@faa.gov.

## BACKGROUND

### What Are the Relevant Airworthiness Standards in the United States?

In the United States, Title 14 of the Code of Federal Regulations (14 CFR), part 25, contains the airworthiness standards for type certification of transport category airplanes. Manufacturers of transport category airplanes must show that each airplane they produce of a different type design complies with the appropriate part 25 standards. These standards apply to:

- airplanes manufactured within the U.S. for use by U.S.-registered operators, and
- airplanes manufactured in other countries and imported to the U.S. under a bilateral airworthiness agreement.

### What Are the Relevant Airworthiness Standards in Europe?

In Europe, Joint Aviation Requirements (JAR)-25 contains the airworthiness standards for type certification of transport category airplanes. The Joint Aviation Authorities (JAA) of Europe developed these standards, which are based on part 25, to provide a common set of airworthiness standards within the European aviation community. Twenty-three European countries accept airplanes type certificated to the JAR-25 standards, including airplanes manufactured in the U.S. that are type certificated to JAR-25 standards for export to Europe.

### What is "Harmonization" and How Did it Start?

Although part 25 and JAR-25 are similar, they are not identical in every respect. When airplanes are type certificated to both sets of standards, the differences between part 25 and JAR-25 can result in substantial added costs to manufacturers and operators. These added costs, however, often do not bring about an increase in safety. In many cases, part 25 and JAR-25 may contain different requirements to accomplish the same safety intent. Consequently, manufacturers are usually burdened with meeting the

requirements of both sets of standards, although the level of safety is not increased correspondingly.

Recognizing that a common set of standards would not only benefit the aviation industry economically, but also preserve the necessary high level of safety, the FAA and the JAA began an effort in 1988 to "harmonize" their respective aviation standards. The goal of the harmonization effort is to ensure that:

- where possible, standards do not require domestic and foreign parties to manufacture or operate to different standards for each country involved; and
- the standards adopted are mutually acceptable to the FAA and the foreign aviation authorities.

The FAA and JAA have identified many significant regulatory differences (SRD) between the wording of part 25 and JAR-25. Both the FAA and the JAA consider "harmonization" of the two sets of standards a high priority.

**What is ARAC and What Role Does It Play in Harmonization?**

After beginning the first steps towards harmonization, the FAA and JAA soon realized that traditional methods of rulemaking and accommodating different administrative procedures was neither sufficient nor adequate to make noticeable progress towards fulfilling the goal of harmonization. The FAA then identified the Aviation Rulemaking Advisory Committee (ARAC) as an ideal vehicle for helping to resolve harmonization issues, and, in 1992, the FAA tasked ARAC to undertake the entire harmonization effort.

The FAA had formally established ARAC in 1991 (56 FR 2190, January 22, 1991), to provide advice and recommendations on the full range of the FAA's safety-related rulemaking activity. The FAA sought this advice to develop better rules in less overall time and using fewer FAA resources than previously needed. The committee

provides the FAA firsthand information and insight from interested parties on potential new rules or revisions of existing rules.

There are 64 member organizations on the committee, representing a wide range of interests within the aviation community. Meetings of the committee are open to the public, except as authorized by section 10(d) of the Federal Advisory Committee Act.

The ARAC sets up working groups to develop recommendations for resolving specific airworthiness issues. Tasks assigned to working groups are published in the Federal Register. Although working group meetings are not generally open to the public, the FAA invites participation in working groups from interested members of the public who have knowledge or experience in the task areas. Working groups report directly to the ARAC, and the ARAC must accept a working group proposal before ARAC presents the proposal to the FAA as an advisory committee recommendation.

The activities of the ARAC will not, however, circumvent the public rulemaking procedures; nor is the FAA limited to the rule language "recommended" by ARAC. If the FAA accepts an ARAC recommendation, the agency continues with the normal public rulemaking procedures. Any ARAC participation in a rulemaking package is fully disclosed in the public docket.

**What is the Status of the Harmonization Effort Today?**

Despite the work that ARAC has undertaken to address harmonization, there remain many regulatory differences between part 25 and JAR-25. The current harmonization process is costly and time-consuming for industry, the FAA, and the JAA. Industry has expressed a strong desire to finish the harmonization program as quickly as possible to relieve the drain on their resources and to finally establish one acceptable set of standards.

Recently, representatives of the aviation industry [including Aerospace Industries Association of America, Inc. (AIA), General Aviation Manufacturers Association

(GAMA), and European Association of Aerospace Industries (AECMA)] proposed an accelerated process to reach harmonization.

**What is the "Fast Track Harmonization Program"?**

In light of a general agreement among the affected industries and authorities to speed up the harmonization program, the FAA and JAA in March 1999 agreed on a method to achieve these goals. This method, titled "The Fast Track Harmonization Program," seeks to speed up the rulemaking process for harmonizing not only the 42 standards that are currently tasked to ARAC for harmonization, but nearly 80 additional standards for part 25 airplanes.

The FAA launched the Fast Track program on November 26, 1999 (64 FR 66522). This program involves grouping all the standards needing harmonization into three categories:

**Category 1: Envelope** – For these standards, parallel part 25 and JAR-25 standards would be compared, and harmonization would be reached by accepting the more stringent of the two standards. Thus, the more stringent requirement of one standard would be "enveloped" into the other standard. Occasionally, it may be necessary to incorporate parts of both the part 25 and JAR standard to achieve the final, more stringent standard. (This may call for each authority revising its current standard to incorporate more stringent provisions of the other.)

**Category 2: Completed or near complete** – For these standards, ARAC has reached, or has nearly reached, technical agreement or consensus on the new wording of the proposed harmonized standards.

**Category 3: Harmonize** – For these standards, ARAC is not near technical agreement on harmonization, and the parallel part 25 and JAR-25 standards cannot be "enveloped" (as described under Category 1) for reasons of safety or unacceptability. A standard developed under Category 3 would be mutually acceptable to the FAA and JAA, with a consistent means of compliance.

Further details on the Fast Track Program can be found in the tasking statement (64 FR 66522, November 26, 1999) and the first Notice of Proposed Rulemaking (NPRM) published under this program, "Fire Protection Requirements for Powerplant Installations on Transport Category Airplanes" (65 FR 36978, June 12, 2000).

**How Does This Amendment Relate to "Fast Track"?**

This amendment results from recommendations that ARAC submitted to the FAA under the FAA's Fast Track Harmonization Program. This rulemaking project has been identified as a **Category 1** item.

**DISCUSSION OF THE AMENDMENT**

**What Did the FAA Propose?**

On December 4, 2000 (65 FR 79294, December 18, 2000), the FAA issued an NPRM that proposed to amend certain airworthiness standards for transport category airplanes. The proposed amendment involved changes to six different standards related to airplane operating limitations and the content of airplane flight manuals.

**How is this Preamble Organized?**

The six specific changes are discussed individually below. Although the reader may find some of the text repetitious, we consider it appropriate for the public to be aware of the background and full reasoning behind each change to these standards.

**CHANGE 1: NEW § 25.1516, "OTHER SPEED LIMITATIONS"**

**What is the Underlying Safety Issue Addressed by the Current Standards?**

There may be speeds above which it is unsafe to:

- extend devices such as ram air turbines, thrust reversers, and landing lights into the air stream; or
- open windows or doors.

The current standards require that speed limitations must be established and made available to the flightcrew to ensure safe operation.

**What are the Current 14 CFR and JAR Standards?**

The FAA has traditionally relied on § 25.1503 ("Airspeed limitations: general") and § 25.1533 ("Additional operating limitations") as the means to fulfill the underlying safety issue. Those two sections mandate speed limitations. Additionally, the text of paragraph (a) of § 25.1501 [at amendment 25-42 (43 FR 2323, January 16, 1978)] states:

*"§ 25.1501 Operating Limitations and Information- General.*

*(a) Each operating limitation specified in §§ 25.1503 through 25.1533, and other limitations and information necessary for safe operation, must be established."*

There are parallel section in JAR-25. However, JAR-25 also contains an additional paragraph, JAR 25X1516 (Change 15, October 2000), that states:

*"JAR 25X1516 Other speed limitations.*

*Any other limitation associated with speed must be established.*

*(See also ACJ 25X1516.)"*

**What are the Differences in the Standards and What Do Those Differences Result In?**

Part 25 has not had an explicit requirement to mandate that any other limitation associated with speed be established; JAR-25 does contain an explicit requirement. There are no practical differences, however, resulting from the difference in the standards. Currently, applicants seeking certification of transport airplane designs by both the FAA and JAA must establish all limitations associated with speed.

**What, If Any, Are the Differences in the Means of Compliance?**

There are no differences between part 25 and JAR-25 in the means of compliance with the addressed requirement.

**What Action Did the FAA Propose?**

In the NPRM, the FAA proposed to harmonize the regulations by revising part 25 to adopt the text of JAR 25X1516 as new § 25.1516. The proposed action would codify current FAA policy, as wells as achieve harmonization with the JAR.

**How Does the Revised Standard Address the Underlying Safety Issue?**

The revised standard continues to address the underlying safety issue by requiring that airspeed limitations be established for devices that can open into the air stream in flight. With the addition of this standard, part 25 will have one explicit requirement for applicants to establish all limitations associated with speed.

**What is the Effect of the Revised Standard on the Current Regulations?**

The revised standard maintains the same level, and may increase the level, of safety provided by the current regulations.

**What is the Effect of the Revised Standard on Current Industry Practice?**

The revised standard maintains the same level of safety relative to current industry practice.

**What Other Options Were Considered and Why Were They Not Selected?**

The FAA has not considered another option. We consider that revising the standard, as discussed above, is the most appropriate way to fulfill harmonization goals while, at the same time, maintaining safety and not affecting current industry design practices.

**Who Will Be Affected by the Revised Standard?**

Manufacturers and operators of transport category airplanes could be affected by the revised standard. However, because the revised standard does not result in any practical changes in requirements or practice, there will not be any significant effect.

**Is Existing FAA Advisory Material Adequate?**

The FAA's Advisory Circular (AC) 25.1581-1, "Airplane Flight Manual," dated July 14, 1997, provides adequate guidance related to the issue addressed by this revised standard. Additionally, the JAA recently issued a parallel Advisory Material Joint (AMJ) 25.1581, which provides guidance that is similar to, and harmonized with, that contained in AC 25.1581-1. In light of this, we do not consider that any additional advisory material is needed relevant to the revised standard.

**CHANGE 2: § 25.1527, "MAXIMUM OPERATING ALTITUDE"**

**What is the Underlying Safety Issue Addressed by the Current Standards?**

Operation of a transport category airplane outside of the environmental envelope established for the airplane may be unsafe. Therefore, the boundaries of that envelope must be established to ensure safe operations. Section 25.1527 requires that such boundaries be established.

**What are the Current 14 CFR and JAR Standards?**

The current text of 14 CFR § 25.1527 [original amendment, Doc. No. 5066, (29 FR 18291, December 24, 1964)] is:

*"§ 25.1527 Maximum operating altitude.*

*The maximum altitude up to which operation is allowed, as limited by flight, structural, powerplant, functional, or equipment characteristics, must be established."*

The current text of JAR 25.1527 (Change 15, October 2000) is:

*"JAR 25.1527 Ambient air temperature and operating altitude.*

*The extremes of the ambient air temperature and operating altitude for which operation is allowed, as limited by flight, structural, powerplant, functional, or equipment characteristics, must be established."*

**What are the Differences in the Standards and What Do Those Differences Result In?**

The current § 25.1527 requires that only the maximum altitude portion of the environmental envelope be established. However, the parallel JAR 25.1527 requires that both the minimum and maximum altitudes as well as the ambient temperatures be established. Although this difference exists, the FAA's policy of applying § 25.1527 is consistent with JAR 25.1527. This is evidenced by the compliance method described in FAA AC 25.1581-1. However, for a regulatory basis, the FAA has traditionally relied on the general provisions of § 25.1501(a) that require ". . . other limitations and information necessary for safe operation must be established."

**What, If Any, Are the Differences in the Means of Compliance?**

Although the explicit current standards are different, there are no differences in their application or means of compliance. As stated previously, the FAA has relied on both the general provisions of § 25.1501(a) and the guidance in AC 25.1581-1 to apply the requirement.

**What Action Did the FAA Propose?**

In the NPRM, the FAA proposed to harmonize the regulations by revising § 25.1527 to adopt the language currently in JAR 25.1527. The proposed action would codify current FAA policy and practice, as well as achieve harmonization with the JAR.

**How Does the Revised Standard Address the Underlying Safety Issue?**

The revised standard continues to address the underlying safety issue in the same manner. It simply codifies current FAA policy and application of the regulations.

**What is the Effect of the Revised Standard on the Current Regulations?**

The revised standard maintains the same level, and may increase the level, of safety provided by the current regulations.

**What is the Effect of the Revised Standard on Current Industry Practice?**

The revised standard maintains the same level of safety relative to current industry practice.

**What Other Options Were Considered and Why Were They Not Selected?**

The FAA has not considered another option. We find that revising the standard, as discussed above, is the most appropriate way to fulfill harmonization goals while, at the same time, maintaining safety and not affecting current industry design practices.

**Who Will Be Affected by the Revised Standard?**

Manufacturers and operators of transport category airplanes could be affected by the revised standard. However, because the revised standard does not result in any practical changes in requirements or practice, there will not be any significant effect.

**Is Existing FAA Advisory Material Adequate?**

The FAA considers that the guidance contained in AC 25.1581-1 is adequate as it pertains to the revised standard. Additionally, the JAA recently issued a parallel AMJ 25.1581, which provides guidance that is similar to, and harmonized with, that contained in AC 25.1581-1. In light of this, we do not consider that any additional advisory material is needed relevant to the revised standard.

**CHANGE 3: § 25.1583(c), "OPERATING LIMITATIONS/WEIGHT AND LOADING DISTRIBUTION"**

**What is the Underlying Safety Issue Addressed by the Current Standards?**

Section 25.1583 (as well as JAR 25.1583) currently requires that certain operating limitations established under §§ 25.1501 through 25.1533 be provided in the Airplane Flight Manual (AFM). To ensure safe operation, any limitations established for the airplane must be made known to the flightcrew. This is accomplished through instrument markings, placards, and the information provided in the AFM.

**What are the Current 14 CFR and JAR Standards?**

The current text of 14 CFR § 25.1583(c) [amendment 25-72 (55 FR 29787, July 20, 1990)] is:

*"§ 25.1583 Operating limitations.*

*. . . (c) Weight and loading distribution. The weight and center of gravity limits required by §§ 25.25 and 25.27 must be furnished in the Airplane Flight Manual. All of the following information must be presented either in the Airplane Flight Manual or in a separate weight and balance control and loading document which is incorporated by reference in the Airplane Flight Manual:*

*(1) The condition of the airplane and the items included in the empty weight as defined in accordance with § 25.29.*

*(2) Loading instructions necessary to ensure loading of the airplane within the weight and center of gravity limits, and to maintain the loading within these limits in flight.*

*(3) If certification for more than one center of gravity range is requested, the appropriate limitations, with regard to weight and loading procedures, for each separate center of gravity range."*

The current text of JAR 25.1583(c) (Change 15, October 2000) is:

*"JAR 25.1583 Operating limitations.*

*. . . (c) Weight and loading distribution. The weight and centre of gravity limitations established under JAR 25.1519 must be furnished in the aeroplane Flight Manual. All the following information, including weight distribution limitations established under JAR 25.1519, must be presented either in the aeroplane Flight Manual or in a separate weight and balance control and loading document which is incorporated by reference in the aeroplane Flight Manual [see ACJ 25.1583(c)];*

*(1) The condition of the aeroplane and the items included in the empty weight as defined in accordance with JAR 25.29.*

*(2) Loading instructions necessary to ensure loading of the aeroplane within the weight and centre of gravity limits, and to maintain the loading within these limits in flight.*

*(3) If certification for more than one centre of gravity range is requested, the appropriate limitations, with regard to weight and loading procedures, for each separate centre of gravity range."*

**What are the Differences in the Standards and What Do Those Differences Result In?**

There are no practical differences in the application of the current two standards. However, the references to other standards that appear in JAR 25.1583(c) are more exact than those that appear in § 25.1583(c). The standards referenced are:

| SECTION NUMBER | TITLE OF SECTION* |
|---|---|
| 25.23 | Load distribution limits |
| 25.25 | Weight limits |
| 25.27 | Center of gravity limits |
| 25.1519 | Weight, center of gravity, and weight distribution |

* The title of each section is the same in both part 25 and JAR-25.

JAR 25.1583(c) requires that the operating limitations established under JAR 25.1519 be provided in the AFM. JAR 25.1519 then requires that weight, center of gravity, and weight distribution limitations, "including those established under JAR 25.23 to JAR 25.27," be established as operating limitations.

On the other hand, § 25.1583(c) of part 25 requires that the weight and center of gravity limitations required by §§ 25.25 and 25.27 must be provided in the AFM. Like its counterpart JAR standard, § 25.1519 requires that weight, center of gravity, and weight distribution limitations established in §§ 25.23 through 25.27 be established as

operating limitations. However, instead of referencing § 25.1519, the requirements of the current § 25.1583(c) specifically refer to the weight and center of gravity limitations determined under §§ 25.25 and 25.27. This mistakenly excludes any operating limitations established under § 25.23.

**What, If Any, Are the Differences in the Means of Compliance?**

Although there are difference in the text of the current standards, there are no differences in their application or means of compliance. The FAA's policy of applying § 25.1583 is consistent with JAR 25.1583. The FAA has relied on the general provisions of § 25.1501(a) and the guidance material in AC 25.1581-1 to apply the same requirement.

**What Action Did the FAA Propose?**

In the NPRM, the FAA proposed to harmonize the regulations by revising § 25.1583(c) to include the same references that are currently in JAR 25.1583(c). The proposed action would codify current FAA policy, as well as achieve harmonization with the JAR.

**How Does The Revised Standard Address the Underlying Safety Issue?**

The revised standard continues to address the underlying safety issue in the same manner. It simply codifies current FAA policy and application of the regulations.

**What is the Effect of the Revised Standard on the Current Regulations?**

The revised standard maintains the same level, and may increase the level, of safety provided by the current regulations.

**What is the Effect of the Revised Standard on Current Industry Practice?**

The revised standard maintains the same level of safety relative to current industry practice.

**What Other Options Were Considered and Why Were They Not Selected?**

The FAA has not considered another option. We find that revising the standard, as discussed above, is the most appropriate way to fulfill harmonization goals while, at the same time, maintaining safety and not affecting current industry design practices.

**Who Will Be Affected by the Revised Standard?**

Manufacturers and operators of transport category airplanes could be affected by the revised standard. However, because the revised standard does not result in any practical changes in requirements or practice, there will not be any significant effect.

**Is Existing FAA Advisory Material Adequate?**

The FAA considers that the guidance contained in AC 25.1581-1 is adequate as it pertains to the revised standard. Additionally, the JAA recently issued a parallel AMJ 25.1581 that provides guidance similar to, and harmonized with, that contained in AC 25.1581-1. In light of this, we do not consider that any additional advisory material is needed relevant to the revised standard.

**CHANGE 4: § 25.1583(f), "OPERATING LIMITATIONS/ALTITUDES"**

**What is the Underlying Safety Issue Addressed by the Current Standards?**

As discussed previously, § 25.1583 (as well as JAR 25.1583) currently requires that certain operating limitations established under §§ 25.1501 through 25.1533 be provided in the AFM. To ensure safe operation, any limitations established for the airplane must be made known to the flightcrew. This is accomplished through instrument markings, placards, and the information provided in the AFM.

**What are the Current 14 CFR and JAR Standards?**

The current text of 14 CFR § 25.1583(f) [amendment 25-72 (55 FR 29787, July 20, 1990)] is:

*"§ 25.1583 Operating limitations.*

*. . . (f) Altitudes. The altitude established under § 25.1527."*

The current text of JAR 25.1583(f) (Change 15, October 2000) is:

*"JAR 25.1583 Operating limitations.*

*. . . (f) Ambient air temperatures and operating altitudes. The extremes of the ambient air temperatures and operating altitudes established under JAR 25.1527 and an explanation of the limiting factors must be furnished."*

**What are the Differences in the Standards and What Do Those Differences Result In?**

Consistent with § 25.1527 (refer to previous discussion), § 25.1583(f) requires that only the maximum altitude portion of the environmental envelope be furnished in the AFM. Consistent with JAR 25.1527, JAR 25.1583(f) requires that the limitations relative to both the minimum and maximum altitudes as well as ambient temperatures be furnished in the AFM.

Although the current standards are different, there are no differences in their application or means of compliance. The FAA's policy of applying § 25.1583(f) is consistent with JAR 25.1583(f). This is evidenced by the compliance method described in FAA AC 25.1581-1. However, the FAA has relied on the general provisions of §§ 25.1501(a) and 25.1581(a)(2) for its regulatory basis.

**What, If Any, Are the Differences in the Means of Compliance?**

Although the current standards are different, there are no differences in the means of compliance. As stated above, the FAA has relied on the general provisions of §§ 25.1501(a) and 25.1581(a)(2) along with the guidance material in AC 25.1581-1 to apply the same requirement.

**What Action Did the FAA Propose?**

In the NPRM, the FAA proposed to harmonize the regulations by revising § 25.1583(f) to adopt the language currently in JAR 25.1583(f). The proposed action would codify current FAA policy, as well as achieve harmonization with the JAR.

However, we did not propose including the current requirement in JAR 25.1583(f) for an explanation of the limiting factors. We find that the provision does not represent current practice, and is unnecessary for safety. The JAA is now planning tc remove this requirement from JAR 25.1583(f). When this is done, harmonization of his standard will be complete.

**How Does the Revised Standard Address the Underlying Safety Issue?**

The revised standard continues to address the underlying safety issue in the same manner. It simply codifies current FAA policy and application of the regulations.

**What is the Effect of the Revised Standard on the Current Regulations?**

The revised standard maintains the same level, and may increase the level, of safety provided by the current regulations.

**What is the Effect of the Revised Standard on Current Industry Practice?**

The revised standard maintains the same level of safety relative to current industry practice.

**What Other Options Were Considered and Why Were They Not Selected?**

The FAA has not considered another option. We consider that revising the standard, as discussed above, is the most appropriate way to fulfill harmonization goals while, at the same time, maintaining safety and not affecting current industry design practices.

**Who Will Be Affected by the Revised Standard?**

Manufacturers and operators of transport category airplanes could be affected by the revised standard. However, because the revised standard does not result in any practical changes in requirements or practice, there will not be any significant effect.

**Is Existing FAA Advisory Material Adequate?**

The FAA considers that the guidance contained in AC 25.1581-1 is adequate as it pertains to the revised standard. Additionally, as noted previously, the JAA recently

issued a parallel AMJ 25.1581 that provides guidance similar to, and harmonized with, that contained in AC 25.1581-1. In light of this, we do not consider that any additional advisory material is needed relevant to the revised standard.

**CHANGE 5: § 25.1585, "OPERATING PROCEDURES"**

**What is the Underlying Safety Issue Addressed by the Current Standards?**

The primary purpose of the AFM is to provide an authoritative and approved source of information that is considered necessary for safely operating the airplane. Consistent with this purpose, the current § 25.1585 requires that the AFM must provide those operating procedures related to airworthiness and necessary for safe operation, including those procedures that may be unique to the specific type of airplane.

**What are the Current 14 CFR and JAR Standards?**

The current text of 14 CFR § 25.1585 [amendment 25-46, (43 FR 50598, October 30, 1978)] is:

*"§ 25.1585 Operating procedures.*

*(a) Information and instructions regarding the peculiarities of normal operations (including starting and warming the engines, taxiing, operation of wing flaps, landing gear, and the automatic pilot) must be furnished, together with recommended procedures for--*

*(1) Engine failure (including minimum speeds, trim, operation of the remaining engines, and operation of flaps);*

*(2) Stopping the rotation of propellers in flight;*

*(3) Restarting turbine engines in flight (including the effects of altitude);*

*(4) Fire, decompression, and similar emergencies;*

*(5) Ditching [including the procedures based on the requirements of §§ 25.801, 25.807(d), 25.1411, and 25.1415(a) through (e)];*

*(6) Use of ice protection equipment;*

*(7) Use of fuel jettisoning equipment, including any operating precautions relevant to the use of the system;*

*(8) Operation in turbulence for turbine powered airplanes (including recommended turbulence penetration airspeeds, flight peculiarities, and special control instructions);*

*(9) Restoring a deployed thrust reverser intended for ground operation only to the forward thrust position in flight or continuing flight and landing with the thrust reverser in any position except forward thrust; and*

*(10) Disconnecting the battery from its charging source, if compliance is shown with § 25.1353(c)(6)(ii) or (c)(6)(iii).*

*(b) Information identifying each operating condition in which the fuel system independence prescribed in § 25.953 is necessary for safety must be furnished, together with instructions for placing the fuel system in a configuration used to show compliance with that section.*

*(c) The buffet onset envelopes, determined under § 25.251 must be furnished. The buffet onset envelopes presented may reflect the center of gravity at which the airplane is normally loaded during cruise if corrections for the effect of different center of gravity locations are furnished.*

*(d) Information must be furnished which indicates that when the fuel quantity indicator reads "zero" in level flight, any fuel remaining in the fuel tank cannot be used safely in flight.*

*(e) Information on the total quantity of usable fuel for each fuel tank must be furnished."*

The current text of JAR 25.1585 (Change 15, October 2000) is:

*"JAR 25.1585 Operating procedures.*

*(a) Information and instructions regarding operating procedures must be furnished [see ACJ 25.1585(a)] in substantial accord with the categories described below –*

*(1) Emergency procedures which are concerned with foreseeable but unusual situations in which immediate and precise action by the crew, as detailed in the recommended procedures, may be expected substantially to reduce the risk of catastrophe.*

*(2) Other procedures peculiar to the particular type or model encountered in connection with routine operations including malfunction cases and failure conditions, involving the use of special systems and/or the alternative use of regular systems not considered as emergency procedures.*

*(b) Information or procedures not directly related to airworthiness or not under the control of the crew, must not be included, nor must any procedure which is accepted as basic airmanship.*

*(c) The buffet onset envelopes, determined under JAR 25.251 must be furnished. The buffet onset envelopes presented may reflect the centre of gravity at which the aeroplane is normally loaded during cruise if corrections for the effect of different centre of gravity locations are furnished. [See ACJ 25.1585(c).]*

*(d) Information must be furnished which indicates that when the fuel quantity indicator reads "zero" in level flight, any fuel remaining in the fuel tank cannot be used safely in flight.*

*(e) Information on the total quantity of usable fuel for each fuel tank must be furnished."*

**What are the Differences in the Standards and What Do Those Differences Result In?**

There are two differences between the standards:

First, the JAR standard does not include the text of current § 25.1585(b), which requires including information in the AFM concerning each operating condition in which the fuel system independence is necessary for safety, and instructions for placing the fuel system in a configuration used to show compliance with § 25.953 ("Fuel system independence"). Lack of such information may compromise the intent of the rules regarding fuel system independence. On this specific issue, the part 25 standard is "more stringent" than the JAR standard. (As discussed later, the JAA intends to revise JAR 25.1585 to add this requirement.)

Second, the text of JAR 25.1585(a) and (b) essentially "updates" the requirements of § 25.1585(a) to better reflect current policy, practices, and interpretations.

These differences do not necessarily entail any substantial differences in the technical requirements for including procedural information in the AFM. If differences in practice have arisen, they may have resulted more from differences in the means of compliance (and interpretation). Because the relevant guidance material -- the FAA's AC 25.1581-1 and the JAA's new AMJ 25.1581 -- is now harmonized, any potential for such differences to arise in the future is minimized.

**What, If Any, Are the Differences in the Means of Compliance?**

As one means to demonstrate compliance with § 25.1585, applicants have relied on the guidance material related to the operating procedures section of the AFM that is contained in AC 25.1581-1. The JAA has provided relevant guidance in ACJs 25.1585(a), 25.1585(c), and 25.251(e). Although there are differences between the texts of the FAA AC and the JAA ACJs, both authorities agree that the FAA's AC represents a harmonized text. The JAA has recently revised its guidance and published a new AMJ 25.1581, which is harmonized with the FAA's AC 25.1581-1.

**What Action Did the FAA Propose?**

In the NPRM, the FAA proposed to revise § 25.1585 to incorporate the text of JAR 25.1585. The current text of § 25.1585(b) is retained, but is redesignated as § 25.1585(c). [The JAA intends to revise JAR 25.1585 to incorporate these same requirements, and will designate them as JAR 25.1585(c).] The incorporated text has been revised editorially to simplify it and make it better reflect current practices. (The JAA intends to make these same editorial revisions to JAR 25.1585.)

Although the text of the current § 25.1585(a) could be considered "more stringent" because it is more specific than the JAR as to the procedures that must be furnished in the AFM, it is considered outdated and not completely consistent with current practices. Additionally, some of the mandated procedures are no longer appropriate and other important procedures are not included. The revised standard provides a better description of what types of procedures are required to be in the AFM, the specifics of which will depend on the particular design developed by the applicant (i.e., a performance-based requirement).

**How Does the Revised Standard Address the Underlying Safety Issue?**

The revised standard continues to address the underlying safety issue in the same manner by requiring information and procedures necessary for airworthiness and operational safety to be furnished in the AFM.

**What is the Effect of the Revised Standard on the Current Regulations?**

The revised standard maintains the same level, and may increase the level, of safety provided by the current regulations.

**What is the Effect of the Revised Standard on Current Industry Practice?**

The revised standard maintains the same level of safety relative to current industry practice.

**What Other Options Were Considered and Why Were They Not Selected?**

The FAA did not consider any option other than harmonizing this item with the JAR. The JAR 25.1585(a) standard is considered to be closer to current practices than the manner in which § 25.1585(a) is actually applied. We find that revising the standard, as discussed above, is the most appropriate way to fulfill harmonization goals while, at the same time, maintaining safety and not affecting current industry design practices.

**Who Will Be Affected by the Revised Standard?**

Manufacturers and operators of transport category airplanes could be affected by the revised standard. However, because the revised standard does not result in any practical changes in requirements or practice, there will not be any significant effect.

**Is Existing FAA Advisory Material Adequate?**

The FAA considers that the guidance contained in AC 25.1581-1 is adequate as it pertains to the revised standard. Additionally, as noted above, the JAA recently issued a parallel AMJ 25.1581 that provides guidance similar to, and harmonized with, that contained in AC 25.1581-1. In light of this, we do not consider that any additional advisory material is needed relevant to the revised standard.

**CHANGE 6: § 25.1587, "PERFORMANCE INFORMATION"**

**What is the Underlying Safety Issue Addressed by the Current Standards?**

The primary purpose of the AFM is to provide an authoritative and approved source of information considered necessary for safely operating the airplane. Consistent with this purpose, § 25.1587 requires that performance information related to airworthiness and necessary for safe operation must be provided in the AFM.

**What are the Current 14 CFR and JAR Standards?**

The current text of 14 CFR § 25.1587 [amendment 25-72 (55 FR 29787, July 20, 1990)] is:

*"§ 25.1587 Performance information.*

*(a) Each Airplane Flight Manual must contain information to permit conversion of the indicated temperature to free air temperature if other than a free air temperature indicator is used to comply with the requirements of § 25.1303(a)(1).*

*(b) Each Airplane Flight Manual must contain the performance information computed under the applicable provisions of this part for the weights, altitudes, temperatures, wind components, and runway gradients, as applicable within the operational limits of the airplane, and must contain the following:*

*(1) The conditions under which the performance information was obtained, including the speeds associated with the performance information.*

*(2) $V_S$ determined in accordance with § 25.103.*

*(3) The following performance information (determined by extrapolation and computed for the range of weights between the maximum landing and maximum takeoff weights):*

*(i) Climb in the landing configuration.*

*(ii) Climb in the approach configuration.*

*(iii) Landing distance.*

*(4) Procedures established under § 25.101(f), (g) and (h) that are related to the limitations and information required by § 25.1533 and by this paragraph. These procedures must be in the form of guidance material, including any relevant limitations or information.*

*(5) An explanation of significant or unusual flight or ground handling characteristics of the airplane."*

The current text of JAR 25.1587 (Change 15, October 2000) is:

*"JAR 25.1587 Performance information.*

*"(a) Not required for JAR-25.*

*(b) Each aeroplane Flight Manual must contain the performance information computed under the applicable provisions of this JAR-25 (including JAR 25.115, 25.123, and 25.125 for the weights, altitudes, temperatures, wind components, and runway gradients, as applicable) within the operational limits of the aeroplane, and must contain the following:*

*(1) The condition of power, configuration, speeds and the procedures for handling the aeroplane and any system having a significant effect on performance upon which the performance graphs are based must be stated in each case. (See ACJ 25.1587(b)(1).)*

*(2) Not required for JAR-25 as this sub-paragraph is covered by the opening sentence of sub-paragraph (b).*

*(3) The following gross performance information (determined by extrapolation and computed for the range of weights between the maximum landing weight and maximum takeoff weight) must be provided:*

*(i) Climb in the landing configuration.*

*(ii) Climb in the approach configuration.*

*(iii) Landing distance.*

*(4) Procedures established under § 25.101 (f) and (g) that are related to the limitations and information required by JAR 25.1533 and by this paragraph must be stated in the form of guidance material, including any relevant limitation or information.*

*(5) An explanation of significant or unusual flight or ground handling characteristics of the aeroplane.*

*(6) Corrections to indicated values of airspeed, altitude and outside air temperature.*

*(7) An explanation of operational landing runway length factors included in the presentation of the landing distance, if appropriate. (See ACJ 25.1587(b)(7).)"*

**What are the Differences in the Standards and What Do Those Differences Result In?**

There are several differences between the current standards:

- Part 25 does not include the text of JAR 25.1587(b)(6) or (b)(7).
- The JAR does not include the text of § 25.1587(a) or (b)(2).
- The JAR contains some wording different from part 25 that better reflects current interpretations and practices.

These differences do not necessarily entail any substantial differences in technical requirements for including performance information in the AFM. If differences in practice have arisen, they would have resulted more from differences in the means of compliance (and interpretation). Because the relevant guidance material -- the FAA's AC 25.1581-1 and the JAA's new AMJ 25.1581 -- is now harmonized, any potential for such differences to arise in the future is minimized.

**What, If Any, Are the Differences in the Means of Compliance?**

As one means to demonstrate compliance with § 25.1585, applicants have relied on the guidance material related to the operating procedures section of the AFM that is contained in AC 25.1581-1. The JAA has provided relevant guidance in ACJs 25.1587(b)(1) and ACJ 25.1587(b)(7). Although there are differences between the texts of the FAA AC and the JAA ACJs, both authorities agree that the FAA's AC represents a harmonized text. As noted previously, the JAA has recently revised its guidance and published a new AMJ 25.1581, which is harmonized with the FAA's AC 25.1581-1.

**What Action Did the FAA Propose?**

In the NPRM, the FAA proposed to harmonize the regulations by revising § 25.1587 to adopt portions of the text of JAR 25.1587. The proposed action would codify current FAA policy, and achieve harmonization with the JAR.

In general, where the standards were different, the FAA found that the JAR standard more properly reflects current practices and, in those cases, proposed using the JAR text as the harmonized standard. In areas where there was a requirement in one standard that did not appear in the other standard, the FAA proposed carrying over that requirement into the proposed harmonized standard. The FAA also proposed including some minor non-substantive editorial changes in the proposed standard. The JAA is now planning to revise JAR 25.1587 in the same way; once this is done, harmonization of this standard will be complete.

**How Does the Revised Standard Address the Underlying Safety Issue?**

The revised standard continues to address the underlying safety issue in the same manner by requiring performance information necessary for airworthiness and operational safety to be furnished in the AFM.

**What is the Effect of the Revised Standard on the Current Regulations?**

The revised standard maintains the same level, and may increase the level, of safety provided by the current regulations.

**What is the Effect of the Revised Standard on Current Industry Practice?**

The revised standard maintains the same level of safety relative to current industry practice.

**What Other Options Were Considered and Why Were They Not Selected?**

The FAA has not considered another option. We find that revising the standard, as discussed above, is the most appropriate way to fulfill harmonization goals while, at the same time, maintaining safety and not affecting current industry design practices.

**Who Will Be Affected by the Revised Standard?**

Manufacturers and operators of transport category airplanes could be affected by the revised standard. However, because the revised standard does not result in any practical changes in requirements or practice, there will not be any significant effect.

**Is Existing FAA Advisory Material Adequate?**

The FAA considers that the guidance contained in AC 25.1581-1 is adequate as it pertains to the revised standard. Additionally, as noted above, the JAA recently issued a parallel AMJ 25.1581 that provides guidance similar to, and harmonized with, that contained in AC 25.1581-1. In light of this, we do not consider that any additional advisory material is needed relevant to the revised standard.

**DISCUSSION OF COMMENTS SUBMITTED TO THE NPRM**

We received comments from two commenters in response to the proposal.

The first commenter, representing numerous groups in the aviation industry, fully supports the proposed actions.

**Comments Concerning § 25.1527**

The second commenter, a non-U.S. airframe manufacturer, suggests that the title of revised § 25.1527, "Maximum operating altitude," be changed. Because the new text applies to the extremes of the ambient air temperature and operating altitude, the title should better reflect the content of the section. The commenter also notes that the title should be changed to be consistent with that of JAR 25.1527, which is "Ambient air temperature and operating altitude."

We concur and have changed the title of § 25.1527 to "Ambient air temperature and operating altitude." Since this section has been harmonized by adopting the JAR standard, it is appropriate that the two parallel sections have the same title.

**Comments Concerning § 25.1587**

The same commenter notes that paragraph (b)(3) of the proposed § 25.1587 refers to ". . . the range of weights between the maximum landing weight and the maximum

takeoff weight." The commenter believes that this range should cover the minimum landing weight and maximum takeoff weight. The commenter notes that this same comment applies to the existing § 25.1587(b)(3).

We disagree with this commenter. Section 25.1587(b) requires applicants to provide the performance information computed under the applicable part 25 provisions for all weights within the operational limits of the airplane in the Airplane Flight Manual. This general requirement would require the performance information specified in § 25.1587(b)(3) to be provided for the weights between the minimum and maximum landing weights. Section 25.1587(b)(3) additionally requires applicants to provide certain performance information pertinent to landing for weights between the maximum landing weight and the maximum takeoff weight. The reason for requiring this additional information beyond the maximum landing weight to be provided in the Airplane Flight Manual is to cover the possibility of an immediate return to landing after a maximum weight takeoff. Accordingly, we have made no changes to this section in the final rule.

**What Regulatory Analyses and Assessments Has the FAA Conducted?**

**Economic Evaluation, Regulatory Flexibility Determination, Trade Impact Assessment, and Unfunded Mandates Assessment**

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs each Federal agency to propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (19 U.S.C. section 2531-2533) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Act also requires agencies to consider international standards and, where appropriate, use them as the basis of U.S. standards. And fourth, the Unfunded Mandates Reform Act of 1995 requires agencies to prepare a written assessment of the

costs, benefits and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local or tribal governments, in the aggregate, or by the private sector, of $100 million or more annually (adjusted for inflation.)

In conducting these analyses, the FAA has determined that this rule has benefits, but no more than minimal costs, and that it is not "a significant regulatory action" under section 3(f) of Executive Order 12866. This rule will not have a significant economic impact on a substantial number of small entities, reduces barriers to international trade, and imposes no unfunded mandates on state, local, or tribal governments, or the private sector.

The (DOT) Order 2100.5, "Regulatory Policies and Procedures," prescribes policies and procedures for simplification, analysis, and review of regulations. If it is determined that the expected impact is so minimal that the rule does not warrant a full evaluation, a statement to that effect and the basis for it is included in the regulation. We provide the basis for this minimal impact determination below. We received no comments that conflicted with the economic assessment of minimal impact published in the NPRM for this action. Given the reasons presented below, and the fact that no comments were received to the contrary, we have determined that the expected impact of this rule is so minimal that the final rule does not warrant a full evaluation.

Currently, airplane manufacturers must satisfy both the requirements of 14 CFR and the European JAR certification standards to market transport category aircraft in both the United States and Europe. Meeting two sets of certification requirements raises the cost of developing a new transport category airplane, often with no increase in safety. In the interest of fostering international trade, lowering the cost of aircraft development, and making the certification process more efficient, the FAA, JAA, and aircraft manufacturers have been working to create, to the maximum possible extent, a single set of certification requirements accepted in both the United States and Europe. As discussed previously, these efforts are referred to as "harmonization." This final rule

results from the FAA's acceptance of an ARAC harmonization working group's recommendation. Members of the ARAC working group agreed that the requirements of this rule will not impose additional costs to U.S. manufacturers of part 25 aircraft.

Specifically, this rule requires the following:

Change 1: New § 25.1516, "Other speed limitations"

U.S. manufacturers of part 25 airplanes comply now with § 25.1501 through the advice of FAA AC 25.1581-1. They also will comply with the new § 25.1516, which is harmonized to existing JAR 25X1516, because § 25.1501 encompasses the requirements of the new FAA standard.

We expect that the result of this harmonization action will be that compliance with either § 25.1516 or JAR 25X1516 will mean compliance with the other. Further, because new JAA advisory material is harmonized with FAA's AC 25.1581-1, the U.S. manufacturers will not need to change the means by which they comply with these harmonized rules.

Change 2: § 25.1527, "Ambient air temperature and operating altitude"

U.S. manufacturers of part 25 airplanes comply now with § 25.1501 through the advice of FAA's AC 25.1581-1. They also will comply with the revised § 25.1527, which is harmonized with JAR 25.1527, because § 25.1501 encompasses the requirements of § 25.1527 as it is amended in this rulemaking action.

We expect that the result of this harmonization action will be that compliance with either § 25.1527 or JAR 25.1527 will mean compliance with the other. Further, because new JAA advisory material is harmonized with FAA AC 25.1581-1, U.S. manufacturers will not need to change the means by which they comply with these harmonized rules.

Change 3: § 25.1583(c), "Operating limitations/weight and loading distribution"

U.S. manufacturers of part 25 airplanes comply now with §§ 25.1501 and 25.1581(a)(2) through the advice of FAA's AC 25.1581-1. They also will comply with

revised of § 25.1583(c) , which is harmonized with the existing JAR 25.1583(c), because §§ 25.1501 and 25.1581(a)(2) encompass § 25.1583(c) as it is amended in this rulemaking action.

This amendment revises § 25.1583(c) to eliminate its inclusion of direct references to § 25.25 and to § 25.27, and its concomitant omission of a direct reference to § 25.23. By amending § 25.1583(c) so that it refers directly to § 25.1519, which includes references to these three sections, they -- § 25.25, § 25.27, and § 25.23 -- are incorporated into the scope of § 25.1583. Thus, all three sections will be referenced indirectly by § 25.1583(c) through its reference to § 25.1519.

We expect that the result of this harmonization action will be that compliance with either § 25.1583(c) or JAR 25.1583(c) will mean compliance with the other. Further, because new JAA advisory material is harmonized with the FAA's AC 25.1581-1, the U.S. manufacturers will not need to change the means by which they comply with the harmonized rules.

Change 4: § 25.1583(f), "Operating Limitations/Altitudes"

U.S. manufacturers of part 25 airplanes comply now with §§ 25.1501 and 25.1581(a)(2) through the advice of the FAA's AC 25.1581-1. They also will comply with this amendment, which harmonizes § 25.1583(f) with the existing JAR 25.1583(f), because §§ 25.1501 and 25.1581(a)(2) encompass the requirements of § 25.1583(f) as it is amended in this rulemaking action.

We expect the result of this harmonization action will be that compliance with either § 25.1583(f) or JAR 25.1583(f) will mean compliance with the other. Further, because new JAA advisory material is harmonized to FAA's AC 25.1581-1, the U.S. manufacturers will not need to change the means by which they comply with these harmonized rules.

Change 5: § 25.1585, "Operating procedures"

U.S. manufacturers of part 25 airplanes comply now with existing § 25.1585, which encompasses and exceeds the scope of existing JAR 25.1585. They also will comply with the revised standard that harmonizes § 25.1585 with JAR 25.1585.

The part 25 requirement will be harmonized with the JAR because, with one exception, the content of the JAA rule better presents FAA's current policy, practices and interpretations than does the content of the existing FAA rule. The single exception is the omission in JAR 25.1585 as an equivalent to § 25.1585(b). This paragraph requires information and instructions to be furnished toward compliance with § 25.953. The harmonized FAA/JAA standard will maintain this current FAA requirement. Harmonization of related advisory material is completed now that new JAA advisory material is harmonized with existing FAA advisory material.

We expect the result of this harmonization action will be that compliance with either § 25.1585 or JAR 25.1585 will mean compliance with the other. Further, no reduction in the level of safety will result from this action. Neither the harmonization of the rules, nor the harmonization of associated JAA advisory material with the FAA advisory material, will present U.S. manufacturers with any practical change in their procedures.

Change 6: § 25.1587, "Performance Information"

U.S. manufacturers of part 25 airplanes comply now separately with existing § 25.1587 and JAR 25.1587, which differ in some particulars. This rulemaking action results in a harmonized FAA/JAA standard, such that manufacturers' compliance with either rule will mean compliance with the other.

The harmonized standard incorporates the requirements of § 25.1587(a) and of § 25.1587(b)(2), which now are lacking in the JAR. It also incorporates the requirements of JAR 25.1587(b)(6) and of JAR 25.1587(b)(7), which were lacking in part 25.

Harmonization of related advisory material is completed now that the JAA advisory material is harmonized with existing FAA advisory material.

We expect the result of this harmonization action will be that compliance with either § 25.1587 or JAR 25.1587 will mean compliance with the other. Neither the harmonization of the rules, nor the harmonization of associated JAA advisory material with the FAA advisory material, will present U.S. manufacturers with any practical change in their procedures.

Benefits and Costs of the Changes

The effect of these regulatory changes will be to improve the codification of current certification practice, and no consequent substantive change either in practice or in costs of compliance will result. Thus, we anticipate that minimal additional costs will be associated with compliance with this rule.

We expect that these changes will result in benefits in the form of cost savings received by affected manufacturers because they will be able to effect compliance with both part 25 and JAR requirements in a simpler and more direct fashion. Further, we expect that the existing level of safety will be maintained.

We have not attempted to quantify the benefits from cost savings that may accrue because of this rule beyond noting that, while the savings from this rule may be small, they are part of a potentially large savings from the harmonization program. We have concluded that, because there is agreement among the potentially affected airplane manufacturers that no costs and no more than minimal savings will result, further analysis is not required.

**Regulatory Flexibility Act**

The Regulatory Flexibility Act (RFA) of 1980, 5 U.S.C. 601–612, directs the FAA to fit regulatory requirements to the scale of the business, organizations, and governmental jurisdictions subject to the regulation. We are required to determine

whether a proposed or final action will have a "significant economic impact on a substantial number of small entities" as defined in the Act.

If we find that the action will have a significant impact, we must do a "regulatory flexibility analysis." However, if we find that the action will not have a significant economic impact on a substantial number of small entities, we are not required to do the analysis. In this case, the Act requires that we include a statement that provides the factual basis for our determination.

We have determined that this amendment will not have a significant economic impact on a substantial number of small entities for two reasons:

First, the net economic effect of the rule is minimal regulatory cost relief. The amendment requires that new transport category aircraft manufacturers meet just the "more stringent" European certification requirement, rather than both the United States and European standards. Airplane manufacturers already meet or expect to meet this standard, as well as the existing part 25 requirement.

Second, all United States manufacturers of transport category airplanes exceed the Small Business Administration small entity criteria of 1,500 employees for aircraft manufacturers. Those U.S. manufacturers include:

- The Boeing Company,
- Cessna Aircraft Company,
- Gulfstream Aerospace,
- Learjet (owned by Bombardier Aerospace),
- Lockheed Martin Corporation,
- McDonnell Douglas (a wholly-owned subsidiary of The Boeing Company),
- Raytheon Aircraft, and
- Sabreliner Corporation.

We received no comments from the public that differed with the assessment given in this section. Since this final rule is minimally cost-relieving and there are no small entity manufacturers of part 25 airplanes, the FAA Administrator certifies that this rule will not have a significant economic impact on a substantial number of small entities

**Trade Impact Assessment**

The Trade Agreement Act of 1979 prohibits Federal agencies from engaging in any standards or related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The statute also requires consideration of international standards and where appropriate, that they be the basis for U.S. standards. In addition, consistent with the Administration's belief in the general superiority and desirability of free trade, it is the policy of the Administration to remove or diminish to the extent feasible, barriers to international trade, including both barriers affecting the export of American goods and services to foreign countries and barriers affecting the import of foreign goods and services into the United States.

In accordance with that statute and policy, we have assessed the potential effect of this final rule and have determined that it supports the Administration's free trade policy because the rule will use European international standards as the basis for U.S. standards.

**Unfunded Mandates Reform Act**

The Unfunded Mandates Reform Act of 1995 (the Act), enacted as Public Law 104-4 on March 22, 1995, is intended, among other things, to curb the practice of imposing unfunded Federal mandates on State, local, and tribal governments. Title II of the Act requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in a $100 million or more expenditure (adjusted yearly for inflation) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is considered to be a "significant regulatory action."

This final rule does not contain such a mandate. Therefore, the requirements of Title II of the Unfunded Mandates Reform Act of 1995 do not apply.

**What Other Assessments Has the FAA Conducted?**

**Executive Order 3132, Federalism**

The FAA has analyzed this final rule under the principles and criteria of Executive Order 13132, Federalism. We determined that this action will not have a substantial direct effect on the States, or the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, we determined that this final rule does not have federalism implications.

**Paperwork Reduction Act**

In accordance with the Paperwork Reduction Act of 1995 [44 U.S.C. 3507(d)], the FAA has determined there are no new requirements for information collection associated with this amendment.

**International Compatibility**

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. We determined there are no ICAO Standards and Recommended Practices that correspond to these regulations.

**Environmental Analysis**

FAA Order 1050.1D defines FAA actions that may be categorically excluded from preparation of a National Environmental Policy Act (NEPA) environmental impact statement. In accordance with FAA Order 1050.1D, appendix 4, paragraph 4(j), this rulemaking action qualifies for a categorical exclusion.

**Energy Impact**

The FAA has assessed the energy impact of this final rule accordance with the Energy Policy and Conservation Act (EPCA), Public Law 94-163, as amended (43 U.S.C. 6362), and FAA Order 1053.1. We have determined that the amendment is not a major regulatory action under the provisions of the EPCA.

**Regulations Affecting Intrastate Aviation in Alaska**

Section 1205 of the FAA Reauthorization Act of 1996 (110 Stat. 3213) requires the Administrator, when modifying regulations in Title 14 of the CFR in a manner affecting intrastate aviation in Alaska, to consider the extent to which Alaska is not served by transportation modes other than aviation, and to establish such regulatory distinctions as he or she considers appropriate. Because this final rule would apply to the certification of future designs of transport category airplanes and their subsequent operation, it could affect intrastate aviation in Alaska.

**Plain Language**

In response to the June 1, 1998, Presidential memorandum regarding the use of plain language, the FAA re-examined the writing style currently used in the development of regulations. The memorandum requires Federal agencies to communicate clearly with the public. We are interested in your comments on whether the style of this document is clear, and in any other suggestions you might have to improve the clarity of FAA communications that affect you. You can get more information about the Presidential memorandum and the plain language initiative at http://www.plainlanguage.gov.

**List of Subjects in 14 CFR Part 25:**

Aircraft, Aviation safety, Reporting and recordkeeping requirements, Safety, Transportation

**The Amendment**

In consideration of the foregoing, the Federal Aviation Administration amends part 25 of Title 14, Code of Federal Regulations as follows:

**PART 25 - AIRWORTHINESS STANDARDS: TRANSPORT CATEGORY AIRPLANES**

1. The authority citation for Part 25 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701, 44702, and 44704.

2. Add new § 25.1516 to read as follows:

**§ 25.1516 Other speed limitations.**

Any other limitation associated with speed must be established.

3. ~~Amend~~ Revise § 25.1527 ~~by revising the text~~ to read as follows:

**§ 25.1527 Ambient air temperature and operating altitude.**

The extremes of the ambient air temperature and operating altitude for which operation is allowed, as limited by flight, structural, powerplant, functional, or equipment characteristics, must be established.

4. Amend § 25.1583 by revising ~~the text of~~ paragraphs (c) and (f) to read as follows:

**§ 25.1583 Operating limitations.**

* * * * *

(c) Weight and loading distribution. The weight and center of gravity limitations established under § 25.1519 must be furnished in the Airplane Flight Manual. All of the following information, including the weight distribution limitations established under § 25.1519, must be presented either in the Airplane Flight Manual or in a separate weight and balance control and loading document that is incorporated by reference in the Airplane Flight Manual:

6-21-01

(1) The condition of the airplane and the items included in the empty weight as defined in accordance with § 25.29.

(2) Loading instructions necessary to ensure loading of the airplane within the weight and center of gravity limits, and to maintain the loading within these limits in flight.

(3) If certification for more than one center of gravity range is requested, the appropriate limitations, with regard to weight and loading procedures, for each separate center of gravity range.

* * * * *

(f) Ambient air temperatures and operating altitudes. The extremes of the ambient air temperatures and operating altitudes established under § 25.1527 must be furnished.

* * * * *

5. Revise Amend § 25.1585 by revising the text to read as follows: mm 6-21-01

**§ 25.1585 Operating procedures.**

(a) Operating procedures must be furnished for –

(1) Normal procedures peculiar to the particular type or model encountered in connection with routine operations;

(2) Non-normal procedures for malfunction cases and failure conditions involving the use of special systems or the alternative use of regular systems; and

(3) Emergency procedures for foreseeable but unusual situations in which immediate and precise action by the crew may be expected to substantially reduce the risk of catastrophe.

(b) Information or procedures not directly related to airworthiness or not under the control of the crew, must not be included, nor must any procedure that is accepted as basic airmanship.

(c) Information identifying each operating condition in which the fuel system independence prescribed in § 25.953 is necessary for safety must be furnished, together with instructions for placing the fuel system in a configuration used to show compliance with that section.

(d) The buffet onset envelopes, determined under § 25.251 must be furnished. The buffet onset envelopes presented may reflect the center of gravity at which the

airplane is normally loaded during cruise if corrections for the effect of different center of gravity locations are furnished.

(e) Information must be furnished that indicates that when the fuel quantity indicator reads "zero" in level flight, any fuel remaining in the fuel tank cannot be used safely in flight.

(f) Information on the total quantity of usable fuel for each fuel tank must be furnished.

6. Amend § 25.1587 ~~by revising the text~~ to read as follows:

**§ 25.1587 Performance information.**

(a) Each Airplane Flight Manual must contain information to permit conversion of the indicated temperature to free air temperature if other than a free air temperature indicator is used to comply with the requirements of § 25.1303(a)(1).

(b) Each Airplane Flight Manual must contain the performance information computed under the applicable provisions of this part (including §§ 25.115, 25.123, and 25.125 for the weights, altitudes, temperatures, wind components, and runway gradients, as applicable) within the operational limits of the airplane, and must contain the following:

(1) In each case, the conditions of power, configuration, and speeds, and the procedures for handling the airplane and any system having a significant effect on the performance information.

(2) $V_S$ determined in accordance with § 25.103.

(3) The following performance information (determined by extrapolation and computed for the range of weights between the maximum landing weight and the maximum takeoff weight):

(i) Climb in the landing configuration.

(ii) Climb in the approach configuration.

(iii) Landing distance.

(4) Procedures established under § 25.101(f) and (g) that are related to the limitations and information required by § 25.1533 and by this paragraph (b) in the form of guidance material, including any relevant limitations or information.

(5) An explanation of significant or unusual flight or ground handling characteristics of the airplane.

(6) Corrections to indicated values of airspeed, altitude, and outside air temperature.

(7) An explanation of operational landing runway length factors included in the presentation of the landing distance, if appropriate.

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